

## ABSTRACT

A high-strength austenitic stainless steel strip excellent in flatness of shape with Vickers hardness of 400 or more is newly proposed, which has the composition consisting of C up to 0.20 mass %, Si up to 4.0 mass %, Mn up to 5.0 mass %, 4.0-12.0 mass % Ni, 12.0-20.0 mass % Cr, Mo up to 5.0 mass %, N up to 0.15 mass % and the balance being Fe except inevitable impurities under the condition that a value Md(N) defined by the formula (1) is in a range of 0-125. It has a dual-phase structure of austenite and martensite involving reverse-transformed austenite at a ratio of 3 vol.% or more. It is manufactured by solution-heating a steel strip having the composition, cold-rolling the steel strip to generate deformation-induced martensite, and then re-heating at 500-700°C to induce reversion. The reversion effectively flattens a shape of the steel strip.

$$\text{Md(N)} = 580 - 520\text{C} - 2\text{Si} - 16\text{Mn} - 16\text{Cr} - 23\text{Ni} - 26\text{Cu} - 300\text{N} - 10\text{Mo} \quad \cdots(1)$$